

ZyXEL

Firmware Release Note

NWA3560-N

**Wireless N Business WLAN 3000 Series Access Point
(Green Product)**

Release V2.23(UJC.5)C0

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ZyXEL NWA3560-N

Release V2.23(UJC.5)C0

Firmware Release Note

Supported Platforms:

ZyXEL NWA3560-N

Versions:

Kernel Version	:	V2.6.25.4 2014-03-10 13:32:02
ZLD Version	:	V2.23(UJC.5) 2014-03-10 14:37:05
BootModule Version	:	V1.16 08/31/2011 14:20:00

File list contains in the Release ZIP file:

File name: 223UJC5C0.bin

Purpose: This binary firmware image file is for normal system update.

Note: The firmware update may take five or more minutes depending on the scale of device configuration. The more complex configuration will take more update time. Do not turn off or reset the device while the firmware update is in progress. The firmware might get damaged, if device loss power or you reset the device during the firmware upload. You might need to refer to Appendix 3 of this document to recover the firmware.

File name: 223UJC5C0.conf

Purpose: This ASCII file contains default system configuration commands.

File name: 223UJC5C0.db

Purpose: This binary file contains default system signatures.

Note: The file is only needed when doing system recovery from damage.

File name: 223UJC5C0.pdf

Purpose: This release file.

File name: 223UJC5C0.ri

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Purpose: This binary firmware recovery image file is for emergent system firmware damage recovery only.

Note: The device firmware could be damaged, for example by the power going off or pressing Reset button during a firmware update.

File name: 223UJC5C0-MIB.zip

Purpose: The MIBs are to collect information on device. The focus of the MIBs is to let administrators collect statistical data and monitor status and performance.

The zip file includes 7 files. ZYXEL-ES-SMI.MIB, ZYXEL-ES-CAPWAP.MIB, ZYXEL-ES-COMMON.MIB, ZYXEL-ES-HybridAP.MIB, ZYXEL-ES-ProWLAN.MIB, ZYXEL-ES-RFMGMT.MIB and ZYXEL-ES-WIRELESS.MIB

Note. Please import ZYXEL-ES-SMI.MIB first.

Read Me First

1. The system default configuration is summarized as below:
 - The default device administration username is “admin”, password is “1234”.
 - The default LAN interface is lan, The default IP address of lan is 192.168.1.2/24.
2. It is recommended that user backup the “startup-config.conf” file first before upgrading firmware. The backup configuration file can be used if user wants to downgrade to an older firmware version.
3. If user upgrades from previous released firmware to this version, there is no need to restore to system default configuration.
4. If there is difficult to configure via GUI (popup java script error, etc). It is recommended to logout the configuration window and clear browser cache first, then try to login and configure again.
5. To reset device to system default, user can press RESET button for 5 seconds and the device will reset itself to system default configuration then reboot automatically.
 - Note: After resetting, the original configuration will be removed. It is recommended to backup the configuration before performing this operation.
6. If there is problem to reboot successfully after firmware upgrade, please refer to Appendix 3: Firmware Recovery.

Known Issue:

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1. **[Symptom]** Microsoft Wireless Zero Configuration (WZC) cannot connect when wireless security is setting to 802.1X (EAP-TLS/PEAP) with 64/128bit WEP.
 2. **[Symptom]** WTP maybe frequently reconnect when heavy packet loses without any notification at clients.
 3. **[Symptom]** When we configure the mode as AP+BRIDGE, The traffic can't transfer if the VLAN is different with MGNT VLAN.

Note:

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1. Recommended use directional antenna for dual concurrent mode operation in the same 2.4G/5GHz band scenario.
 2. WDS/REAPTER mode cannot forward VLANs between interfaces when the VLANs are not configuring on device.

Features:

Modifications in V2.23(UJC.5)C0 - 2014/03/13

N/A

Modifications in V2.23(UJC.5)b1 - 2014/03/10

1. [ENHANCEMENT]

Enhance CAPWAP mechanism when doing negotiation.

Modifications in V2.23(UJC.4)C0 - 2014/02/18

N/A

Modifications in V2.23(UJC.4)b3 - 2014/02/12

1. [ENHANCEMENT]

Add CLI command for wireless debug.

_debug wireless_dbg <wireless debug string>

2. [ENHANCEMENT]

Add CLI command for show file and folder in the white-list

_debug show file <absolute path>

_debug show folder <absolute path>

3. [ENHANCEMENT]

Disable DFS channel switch when operation is in AP+Bridge or Bridge/Repeater mode.

4. [BUGFIX]SPR: 140205013

Symptom:

SNMP OID interface ifIndex increases after change wireless security key.

#ITS: 140100586

5. [BUGFIX]SPR: 140211205

Symptom:

Command “logging mail 1 port 587” will cause our device apply last good configuration or default configuration

#ITS: 140200043

Modifications in V2.23(UJC.4)b2 - 2014/01/23

N/A

Modifications in V2.23(UJC.4)b1 - 2014/01/16

1. [ENHANCEMENT]

Add CLI command to enable/disable spanning tree protocol

KB # 013130

2. [ENHANCEMENT]

Modify SSID name validation rule to

"[a-zA-Z0-9`~!@#\$%^&*()_-=+,<.>\\?;:\"\\{\\}\\}\\{1,33}"

3. [ENHANCEMENT]

Add CLI command to disable/enable WDS link with VLAN.

CLI:

Disable: WDS link without VLAN

wlan-radio-profile xxx

wds-vlan deactivate

exit

Enable: WDS link with VLAN

wlan-radio-profile xxx

wds-vlan activate

exit

4. [BUGFIX]SPR: 1208301989

Symptom:

NWA 3160-N /3560-N does not allow space with security key. NWA3166 allows space with security key.

ITS# 120805199

5. [BUGFIX]SPR: 121017315

Symptom:

WPA-PSK and WPA2-PSK Pre-Shared Key cannot set 63 ASCII or 64 hexadecimal characters.

#ITS120805199

6. [BUGFIX]SPR: 130613871

Symptom:

topology:Client 01 -LANCOM Router A <VPN> LANCOM Router B - AP1 <WDS> AP2 ...From B to AP1, AP 2 = Ping OKFrom A to AP 1 = OKFrom A to AP2 = FailCan't ping different subnet via WDS because default gateway will not exist if no ethernet connection connects to the LAN port of AP.

7. [BUGFIX]SPR: 1307191568

Symptom:

If the WTP use the IP is xxx.xxx.xxx.xxx , the rogue AP will can't detect. For

Example:192.168.123.231

ITS#130702340

8. [BUGFIX]SPR: 1309241736

Symptom:

No default gateway if no ethernet cable connecting to AP.

ITS#130902209

9. [BUGFIX]SPR: 1310301896

Symptom:

When on the first hour has station connect with the AP and has traffic, after that, didn't has any user connect with the AP, but the Daily Report for the radio traffic also show has a traffic.

ITS#130803812

10. [BUGFIX]SPR: 131106334

Symptom:

SNMP v2c can't be disabled permanently after reboot NWA560-N. my test steps:1. Uncheck SNMP v2c box from Configuration > System > SNMP Configuration2. Check running config and show snmp status in console and there has no SNMP v2c enable3. Reboot NWA3560-N via GUI4. SNMP v2c box has been checked again on GUI and also in console 5. Even I disabled SNMPv2c by using CLI "no snmp-server version v2c" after reboot AP SNMP v2c still was enabled again.

ITS#131001797

11. [BUGFIX]SPR: 1311261371

Symptom:

The customer wants to know the radio is disabled or not via SNMP. Customer was checking SNMP OID "ZYXEL-ES-WIRELESS::wlanCurrentChannel". This SNMP OID in customer 'test and my test always has last configured channel even I disable radio on WEB GUI.

ITS#131003839

12. [BUGFIX]SPR: 140114659

Symptom:

two NWA3550-N couldn't establish WDS-link if we set WDS on radio 1, and radio 2 service STA(MBSSID)

13. [BUGFIX]SPR: 140114660

Symptom:

When add a radio profile use 5G band mode + Channel "36 - indoor use only" will cause the following config command not configured.

14. [BUGFIX]SPR: 140114664

Symptom:

- When use the Reset Utility target with "ff:ff:ff:ff:ff:ff, on the same subnet all NWA3KN AP will reset to default.
- ITS#131100960
15. [BUGFIX]SPR: 140115681
Symptom:
Change MAC FILTER profile and all APs(using or not using this MAC filter profile) will receive updating configuration and make all STA re-connect.
ITS#131001401
16. [BUGFIX]SPR: 140115695
Symptom:
When admin change password on "Update Admin Info" page, the password can not to save.
17. [BUGFIX]SPR: 140115696
Symptom:
Remove all off-line AP and capwap server dead.
ITS#130404419
18. [BUGFIX]SPR: 140115714
Symptom:
Two 3KN devices couldn't establish WDS-link if we set peer mac address in index 2~5

Modifications in V2.23(UJC.3)C0 - 2012/12/12

N/A

Modifications in 2.23(UJC.3)b1 - 2012/12/06

1. [FEATURECHANGE]
WAS:
[GUI] keeps "Disable-Channel Switch for DFS" check box.
IS:
[GUI] Remove "Disable-Channel Switch for DFS" check box.

Modifications in 2.23(UJC.2)C0 - 2012/10/05

N/A

Modifications in 2.23(UJC.2)B6 - 2012/10/05

19. [BUGFIX] SPR: 120829796
Symptom:
Controller happened zysh daemon terminated if set AP description to full length.
20. [BUGFIX] SPR: 120830009
Symptom:

WTP will be crashed if disable A-MPDU & A-MSDU.

21. [BUGFIX] SPR: 120904248

Symptom:

When total associating STA (2.4GHz WPA2-PSK: AES) more than 30; DUT would reject new/old STA association sometimes. SVD hit it 2 times in ZyXEL park environment, but it is difficult to duplicate.

Modifications in 2.23(UJC.2)B5 - 2012/08/28

1. [BUGFIX] SPR: 120710562

Symptom:

Configuration Files name cannot use ; [] these three characters, but Help says these three characters are allowed.

2. [BUGFIX] SPR: 120710610

Symptom:

IP dns server CLI command should be saved, after applying write command.

3. [BUGFIX] SPR: 120711765

Symptom:

When apply config include channel that DUT's country code not support, DUT will crash.

4. [BUGFIX] SPR: 120713020

Symptom:

during change wds' topology from STAR to mesh, ethernet side PC will cause loop situation.

5. [BUGFIX] SPR: 120720527

Symptom:

The characters number of configuration's name is not matched with GUI's help.

Modifications in 2.23(UJC.2)B4 - 2012/07/04

1. [FEATURECHANGE]

WAS: No Support L2 Isolation

IS: Support L2 Isolation, configure in SSID Page.

2. [FEATURECHANGE]

WAS: MSSID MAC Address example:

#1 SSID	40:4A:03:XX:XX:XX
#2 SSID	02:4A:03:XX:XX:XX
#3 SSID	06:4A:03:XX:XX:XX
#4 SSID	0A:4A:03:XX:XX:XX
#5 SSID	0E:4A:03:XX:XX:XX
#6 SSID	12:4A:03:XX:XX:XX
#7 SSID	16:4A:03:XX:XX:XX

#8 SSID 1A:4A:03:XX:XX:XX

IS: MSSID MAC Address example:

#1 SSID 40:4A:03:XX:XX:XX

#2 SSID E2:4A:03:XX:XX:XX

#3 SSID E6:4A:03:XX:XX:XX

#4 SSID EA:4A:03:XX:XX:XX

#5 SSID EE:4A:03:XX:XX:XX

#6 SSID F2:4A:03:XX:XX:XX

#7 SSID F6:4A:03:XX:XX:XX

#8 SSID FA:4A:03:XX:XX:XX

3. [BUGFIX] SPR: 120201139

Symptom: In ZyXEL gymnasium, NWA3560-N enables one SSID in 802.11n 2.4GHz (channel-6 20MHz) and let 44 STA associate to it. If SSID is encryption mode (ex: WPA2-PSK), max associating STA number is less than 30; If SSID is none security mode, max associating STA number could reach 44.

4. [BUGFIX] SPR: 120201142

Symptom: In ZyXEL gymnasium, NWA3560-N enables one SSID in 802.11n 2.4GHz (channel-6 20MHz) and let 44 STA associate to it. User should enable the intra-BSS function for getting better throughput result(about 27Mbps); if user disable the intra-BSS function, result may low than 15Mbps.

5. [BUGFIX] SPR: 120525944

Symptom: If change 802.11 band on radio profile setting page, GUI will pop up advanced setting items.

6. [BUGFIX] SPR: 120531376

Symptom: Monitor page issue about SSID security status.

7. [BUGFIX] SPR: 120605300

Symptom: DUT reboot during user change radio mode between 2.4GHz and 5GHz sometimes.

8. [BUGFIX] SPR: 120604178

Symptom: After upgrading FW, WTP would crash during AC assign specific configuration to it.

9. [BUGFIX] SPR: 120416094

Symptom: RTS/ACK use wrong basic rate to transmit data

10. [BUGFIX] eITS: 120601604

Symptom: bridge's default gateway cannot add/remove to/from route table after link up/down when all member is VLAN.

11. [BUGFIX]

Symptom: CLI "show ip route" no resolute.

Modifications in 2.23(UJC.2)B3 - 2012/05/03

1. [FEATURECHANGE]

WAS: The default idle timeout value in security profile is 3000 seconds.

IS: The default idle timeout value is decreased from 3000 to 300 seconds.

2. [ENHANCEMENT] If VLAN group numbers is less than two when AP bridge is turn on, then don not change multicast to uni-cast.

3. [BUGFIX] SPR: 100920764

Symptom: Station counter is inaccurate sometimes.

4. [BUGFIX] SPR: 110314906

Symptom: 802.1x with wep security type issue.

5. [BUGFIX] SPR: 110425378

Symptom: Link status isn't stable with some specific procedure.

6. [BUGFIX] SPR: 111006317

Symptom: Zysh daemon will be terminated, when enter a long string into time server address field.

7. [BUGFIX] SPR: 111007331

Symptom: Use IXIA to simulate user to do HTTP、FTP、POP3、SMTP transmission via WDS link over 24 hours, then DUT's console will print some messages then DUT will reboot automatically.

8. [BUGFIX] SPR: 111011487

Symptom: Use IXIA to simulate 5000 users to do HTTP、FTP、POP3、SMTP transmission via WDS link over 72 hours, then WDS link will be disconnect and cannot be reconnect.

9. [BUGFIX] SPR: 111012498

Symptom: Use two wireless clients to do FTP and other data transmission over night, then DUT will print some error message.

10. [BUGFIX] SPR: 111017804

Symptom: NWA3160-N console will be hanged after do multicast data transmission via WDS link.

11. [BUGFIX] SPR: 111018017

Symptom: Wireless Frame Capture can not work.

12. [BUGFIX] SPR: 111102286

Symptom: Some WTP cannot upgrade firmware when test Firmware upgrade case 3、5、7.

13. [BUGFIX] SPR: 111103339

Symptom: Can't add new Radio profile by GUI if set DUT's country code to 221.

14. [BUGFIX] SPR: 111104432

Symptom: When 24 WTPs connect to AC overnight, some WTPs will disconnect then reconnect to AC.

15. [BUGFIX] SPR: 111116813

Symptom: STA couldn't associate to the original SSID (or couldn't get IP) after user change any profile item in specific SSID profile of dual radio WTP.

16. [BUGFIX] SPR: 111129944

Symptom: Console display error message " wireless_hal_stainfo.c:161:>>>>sta not find in list 50:67:f0:37:b7:76" when list Station Info.

17. [BUGFIX] SPR: 111129992

Symptom: WTP will apply last-good.conf if change WTP ip address type from static to DHCP.

18. [BUGFIX] SPR: 111130033

Symptom: SSID profile will be abnormality if follow below procedure.

19. [BUGFIX] SPR: 111202258

Symptom: DUT will apply last-good.conf after setting Trusted client secret key as maximum length.

20. [BUGFIX] SPR: 111202261

Symptom: One DUT cannot power on successfully after downgrade firmware from 2.23(UJC.2)b2 to 2.23(UJC.2)b1.

21. [BUGFIX] SPR: 111206445

Symptom: Sometimes Monitor mode can't work (DUT on Standalone mode).

22. [BUGFIX] SPR: 111215362

Symptom: In CLI, user input "reboot" command, message would show "ZyWALL is going to reboot"

23. [BUGFIX] SPR: 111223059

Symptom: Veriwave result issue about NWA3160-N v2.23 (UJC.2) b2 and NWA5560-N v2.23 (UJE.1) C0 in 802.11n (no security or AES)

24. [BUGFIX] SPR: 110323883

Symptom: WDS link would be down after stress test.

25. [BUGFIX] SPR: 111116756

Symptom: Throughput issue about NWA3550-N(802.11g mode).

26. [BUGFIX] SPR: 111201128

Symptom: NWA3160-N will reboot after do multicast data transmission via WDS link overnight.

Modifications in 2.23(UJC.2)B2 - 2011/11/24

1. [FEATURECHANGE]

WAS: When client receive the ACK(IP), client will issue a ARP reply for announcement.

- IS: When client receive the ACK(IP), client will five three ARP requests to check if the IP had used. Per ARP request will sleep 0.5 second. If no one reply the request, client will issue a ARP reply for announcement.
2. [BUGFIX] SPR: 111017903
Symptom: CAPWAP connection disconnect once in the overnight test.
 3. [BUGFIX] SPR: 111016780
Symptom: CAPWAP server daemon dead, when WTP connected & its IP Address 192.168.1.150
 4. [BUGFIX] SPR: 110913524
Symptom: When WTP boot-up, it get user's setting from Controller, but running as default setting.
 5. [BUGFIX] SPR: 111006245
Symptom: Number of un-classified APs and number of AD-hoc APs are wrong.
 6. [BUGFIX] SPR: 111027834
Symptom: In beacon frame, channel of Direct Sequence Parameter Set (Elements ID 3) is not current as setting.
 7. [BUGFIX] SPR: 111006317
Symptom: Zysh daemon will be terminated, when enter a long string into time server address field.
 8. [BUGFIX] SPR: 111017797
Symptom: Enter 71 characters domain in Send From&Send Log to&Send Alerts to field then press apply GUI will pop up wrong message.
 9. [BUGFIX] SPR: 111017810
Symptom: Cannot use some characters or maximum length as 802.1x secret key when use DUT as radius server.
 10. [BUGFIX] SPR: 111018012
Symptom: Use some characters as Device HA password GUI will pop up error message.
 11. [BUGFIX] SPR: 111102286
Symptom: WTP maybe upgrade firmware fails when wireless is used.
 12. [BUGFIX] SPR: 111104432
Symptom: When 24 WTPs connect to AC overnight, some WTPs will disconnect then reconnect to AC.
 13. [BUGFIX] SPR: 111116813
Symptom: In MSSID, some SSID can't service when over two of SSIDs use the same VLAN ID.

Modifications in 2.23(UJC.2)B1 - 2011/10/03

1. [ENHANCEMENT] "Bridge+Repeater" Support
2. [ENHANCEMENT] 2.4G Hz band support channel width 20/40 mode.

3. [ENHANCEMENT] WEP Key accepts prefixed with “0x”, “0X or no prefixed.
4. [ENHANCEMENT] “indoor use only” XXXXXX
5. [ENHANCEMENT] Boot Module upgrade from 1.13 to 1.16, will be support to manage by NXC5200.
6. [BUGFIX] SPR: 110530587
Symptom: DUT will be applying the lastgood.conf after DUT reboot when add a WTP MAC address as “00:00:00:00:00:00”.
7. [BUGFIX] SPR: 101021005
Symptom: Remove the characters "]" and "|" in the description warring icon message.
8. [BUGFIX] SPR: 101216486
Symptom: The ping response time increases a lot when WDS-link is not exist.
9. [BUGFIX] SPR: 110208088&110323883
Symptom: Wireless client cannot associate with DUT after running multicast stream data transmission.
10. [BUGFIX] SPR: 110429842
Symptom: When WTP’s management VLAN is tag VLAN, then each of SSID can’t bring tag as setting.
11. [BUGFIX] SPR: 110504283
Symptom: GUI will stick in Update Admin Info page when use IE9.
12. [BUGFIX] SPR: 110504377
Symptom: WTP will response warring message “% can’t find No-existed entity!” when enter CLI command “capwap ap vlan vlan-id 2 tag”.
13. [BUGFIX] SPR: 110627228
Symptom: Wireless client get long ping response time.
14. [BUGFIX] SPR: 110526341
Symptom: Load balancing will cause CPU usage high.
15. [BUGFIX] SPR: 110328350
Symptom: DUT reboot will try to apply lastgood.conf or system-default.conf when controller managed wtp reach max number.
16. [BUGFIX] SPR: 110921364
Symptom: CLI command "hostname" can't work when name prefix “-”.
17. [BUGFIX] SPR: 110425378
Symptom: DCS can’t work when disable first ssid profile setting in radio profile.

Modifications in 2.23(UJC.1)C0 - 2011/05/20

1. [ENHANCEMENT] “AP+Bridge” Support
2. [BUGFIX] Wrong message when password is not match in “Update Admin Info” page.

3. [BUGFIX] If DUT work with monitor mode, DUT would keep CPU usage more than 95%
4. [BUGFIX] 2.4G low throughput issue when 5G change to 2.4G band.
5. [BUGFIX] httpd security hot fix
6. [BUGFIX] Managed AP cannot work when profile name is more than 25 characters.
7. [BUGFIX] Wi-Fi Phone (WP-589) connection is not stable issue.
8. [BUGFIX] 2.4G low throughput issue
9. [BUGFIX] Beacon periodic stops for 15 seconds when DCS enable on 5G band.

Modifications in 2.23(UJC.0)C0 - 2011/03/29

N/A

Appendix 1 - Firmware upgrade/downgrade procedure

The following is the firmware **upgrade** procedure:

1. If user did not backup the configuration file before firmware upgrade, please follow the procedures below:
 - Use Browser to login into device as administrator.
 - Click Maintenance > File Manager > Configuration File to open the Configuration File screen. Use the Configuration File screen to backup current configuration file.
 - Find firmware at www.zyxel.com in a file that (usually) uses the system model name with the .bin extension, for example, “223UJC0C0.bin”.
 - Click Maintenance > File Manager > Firmware Package to open the Firmware Package screen. Browser to the location of firmware package and then click Upload. The device automatically reboots after a successful upload.
 - After several minutes, the system is successfully upgraded to newest version.

The following is the firmware **downgrade** procedure:

1. If user has already backup the configuration file before firmware upgrade, please follow the procedures below:
 - Use Console/Telnet /SSH to login into device.
 - Router>**enable**
 - Router#**configure terminal**
 - Router(config)#**setenv-startup stop-on-error off**
 - Router(config)#**write**
 - Load the older firmware to device using standard firmware upload procedure.
 - After system uploads and boot-up successfully, login into device via GUI.
 - Go to GUI → “File Manager” menu, select the backup configuration filename, for example, startup-config-backup.conf and press “Apply” button.
 - After several minutes, the system is successfully downgraded to older version.
2. If user did not backup the configuration file before firmware upgrade, please follow the procedures below:
 1. Use Console/Telnet /SSH to login into device.
 2. Router>**enable**
 3. Router#**configure terminal**
 4. Router(config)#**setenv-startup stop-on-error off**
 5. Router(config)#**write**
 6. Load the older firmware to device using standard firmware upload procedure.
 7. After system upload and boot-up successfully, login into device via Console/Telnet/SSH.
 8. Router>**enable**
 9. Router#**write**

Now the system is successfully downgraded to older version.

Note: device might lose some configuration settings during this downgrade procedure. It is caused by configuration conflict between older and newer firmware version. If this situation happens, user needs to configure these settings again.

Appendix 2 - SNMPv2c/3 private MIBS support

SNMPv2c/3 private MIBs provides user to monitor EnterpriseWLAN platform status. If user wants to use this feature, you must prepare the following step:

1. Have EnterpriseWLAN mib files and install to your MIBs application (like MIB-browser).
2. Device SNMP is enabled.
3. Using your MIBs application connects to device.

Appendix 3 - Firmware Recovery

In some rare situation, device might not boot up successfully after firmware upgrade. The following procedures are the steps to recover firmware to normal condition. Please connect console cable to device.

1. Restore the Recovery Image

- If one of the following cases occur, you need to restore the “recovery image”
 - Booting failed, device show error code while uncompressed “Recovery Image”.

```
DRAM POST: Testing: 262144K
DRAM Test SUCCESS !

Kernel Version: V2.4.27-AQE-2007-07-04 | 2007-10-08 13:19:57
ZLD Version: V2.00(AQE.0)-1 | 2007-10-08 15:14:27

Press any key to enter debug mode within 3 seconds.
*****
```

```
Linux/PPC load: console=ttyS0,115200 root=/dev/ram init=zyinit ""
Uncompressing Linux...inflate returned FFFFFFFD
exit
```

```
■ Device reboot infinitely.

BootModule Version: V1.011 | 2007-03-30 12:22:57
DRAM: Size = 510 Mbytes
DRAM POST: Testing: 522240K OK
DRAM Test SUCCESS !

Kernel Version: V2.4.27-kernel-2007-10-08 | 2007-10-08 10:44:31
ZLD Version: v2.01(xL.0)b1 | 2007-10-08 11:37:52

Press any key to enter debug mode within 3 seconds.
*****
```

```
BootModule Version: v1.011 | 2007-03-30 12:22:57
DRAM: Size = 510 Mbytes
DRAM POST: Testing: 522240K OK
DRAM Test SUCCESS !
```

```
Kernel Version: v2.4.27-kernel-2007-10-08 | 2007-10-08 10:44:31
ZLD Version: v2.01(xL.0)b1 | 2007-10-08 11:37:52
```

- Nothing displays after “Press any key to enter debug mode within 3 seconds.” for more than 1 minute.

```
BootModule Version: V1.011 | 2007-03-30 12:22:57
DRAM: Size = 510 Mbytes
DRAM POST: Testing: 522240K OK
DRAM Test SUCCESS !

Kernel Version: V2.4.27-kernel-2006-08-21 | 2006-08-21 19:54:00
ZLD Version: V1.01(xL.0) | 2006-09-11 17:41:56

Press any key to enter debug mode within 3 seconds.
*****
```

- Startup message displays “Invalid Recovery Image”.

```
BootModule Version: V1.012 | 2007-05-10 21:05:27
DRAM: Size = 510 Mbytes
DRAM POST: Testing: 522240K OK
DRAM Test SUCCESS !

Kernel Version: V2.4.27-XL-2007-05-10 | 2007-05-10 02:15:31
ZLD Version: VZW1050_DailyBuild_New_Trunk | 2007-05-10 03:12:49

Press any key to enter debug mode within 3 seconds.
.....
```

Invalid Recovery Image

ERROR

Enter Debug Mode

>

- The message here could be “Invalid Firmware”. However, it is equivalent to “Invalid Recovery Image”.

Invalid Firmware!!!

ERROR

- Press any key to enter debug mode

```
BootModule Version: V1.011 | 2007-03-30 12:22:57
DRAM: Size = 510 Mbytes
DRAM POST: Testing: 522240K OK
DRAM Test SUCCESS !
```

```
Kernel Version: V2.4.27-kernel-2006-08-21 | 2006-08-21 19:54:00
ZLD Version: V1.01(XL.0) | 2006-09-11 17:41:56
```

Press any key to enter debug mode within 3 seconds.

.....

Enter Debug Mode

> ■

- Enter atuk. The console prompts warning messages and waiting for the confirmation. Answer ‘Y’ and start to upload “recovery image” via Xmodem.

> atuk

This command is for restoring the “recovery image” (xxx.ri).

Use This command only when

- 1) the console displays “Invalid Recovery Image” or
- 2) the console freezes at “Press any key to enter debug mode within 3 seconds” for more than one minute.

Note:

Please exit this command immediately if you do not need to restore the “recovery image”.

Do you want to start the recovery process (Y/N)? (default N) ■

- Use the Xmodem feature of terminal emulation software to upload the file.
- Wait for about 3.5 minutes until finishing Xmodem.

```
Total 2120704 bytes received.
programming .
```

```
OK
```

```
> |
```

- Enter atkz -f -l 192.168.1.1 performing the “Restore Firmware” process.

```
>
>
>
> atkz -f -l 192.168.1.1
```

2. Restore Firmware

- If “Connect a computer to port 1 and FTP to 192.168.1.1 to upload the new file” displays on the screen, you need to recover the firmware by the following procedure.

```
Building ...
```

```
| Connect a computer to port 1 and FTP to 192.168.1.1 to upload the new file.
```

- You will use FTP to upload the firmware package. Keep the console session open in order to see when the firmware recovery finishes.
- Set your computer to use a static IP address from 192.168.1.2 ~ 192.168.1.254. No matter how you have configured the device’s IP addresses, your computer must use a static IP address in this range to recover the firmware.
- Connect your computer to the device’s port 1 (the only port that you can use for recovering the firmware).
- Use an FTP client on your computer to connect to the device. This example uses the ftp command in the Windows command prompt. The device’s FTP server IP address for firmware recovery is 192.168.1.1
- Log in without user name (just press enter).
- Set the transfer mode to binary. Use “bin” (or just “bi” in the Windows command prompt).
- Transfer the firmware file from your computer to the device (the command is “put 1.01(XL.0)C0.bin” in the Windows command prompt).

```
C:>ftp 192.168.1.1
Connected to 192.168.1.1.
220=<<*>>=-.. .<< Welcome to PureFTPD 1.0.11 >> .:-=<<*>>=-
220-You are user number 1 of 50 allowed
220-Local time is now 03:21 and the load is 0.00. Server port: 21.
220-Only anonymous FTP is allowed here
220 You will be disconnected after 15 minutes of inactivity.
User <192.168.1.1:<none>:
230 Anonymous user logged in
ftp> bin
200 TYPE is now 8-bit binary
ftp> put E:\ftproot\ZLD_FW\101XL\101XL0C0\1.01(XL.0)C0.bin
```

- Wait for the file transfer to complete.

```
200 PORT command successful
150 Connecting to port 3675
226-213.7 Mbytes free disk space
226-File successfully transferred
226 1.057 seconds <measured here>, 33.06 Mbytes per second
ftp: 36642350 bytes sent in 1.06Seconds 34503.15Kbytes/sec.
ftp>
```

- The console session displays “Firmware received” after the FTP file transfer is complete. Then you need to wait while the device recovers the firmware (this may take up to 4 minutes).

```
Firmware received ...
```

```
[Update Filesystem]
  Updating Code
  ..
```

- The message here might be “ZLD-current received”. Actually, it is equivalent to “Firmware received”.

```
ZLD-current received ...
```

```
[Update Filesystem]
  Updating Code
  ..
```

- The console session displays “done” when the firmware recovery is complete. Then the device automatically restarts.

```
done
[Update Kernel]
  Extracting Kernel Image
  ..
done
  Writing Kernel Image ... done
Restarting system.
```

- The username prompt displays after the device starts up successfully. The firmware recovery process is now complete and the device is ready to use.
- If one of the following cases occurs, you need to do the “firmware recovery process” again. Note that if the process is done several time but the problem remains, please collect all the console logs and send to ZyXEL for further analysis.

- Refer to Step 1 “Restore the Recovery Image” and if there is similar case, the process must be performed again.
- One of the following messages appears on console, the process must be performed again.
 - ◆ /bin/sh: /etc/zyxel/conf/ZLDconfig: No such file
 - ◆ Error: no system default config file, system configuration stop!!